Research article

Perceptions of source efficacy and persuasion: Multiple mechanisms for source effects on attitudes

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Abstract
When communicators are perceived as likely to bring proposed outcomes to fruition, they have source efficacy. Although perceptions of source efficacy are common in persuasion settings, this construct has received little direct research attention. The present research explored how source efficacy may impact persuasion in different ways at different levels of motivation to process messages. Across three experiments, participants encountered message arguments of varying quality from a source manipulated to be relatively efficacious or inefficacious. When motivation to process the message was low, source efficacy served as a peripheral cue (Experiment 1). When motivation was high, efficacy information learned before the message biased processing of ambiguous messages (Experiment 2), but source efficacy learned after the message affected the amount of confidence people had in their message-related thoughts (Experiment 3). These effects of source efficacy were distinct from effects of perceived source expertise/credibility. Copyright © 2011 John Wiley & Sons, Ltd.

INTRODUCTION
In many settings, the qualities of a persuasive message source can determine the extent to which their communication is influential (see Brinol & Petty, 2009b). Relative to other source characteristics, one factor that has received little direct research attention is the perceived efficacy or effectiveness of the message source. Perceptions of efficacy would relate to how an individual or a group is viewed in terms of being able to bring about what he, she, or they propose. Perceptions of source efficacy could influence persuasion in many common situations such as encouraging speeches from political candidates, letters to the editor of a newspaper, and coworkers advocating changes at the office. However, little is known concerning the various ways that perceptions of efficacy might influence attitudes.

Compared to ineffectual sources, highly efficacious advocates should be viewed as more likely to use persuasive techniques (e.g., provide valid arguments) that increase the likelihood of success with their proposal. Expectations associated with effectiveness likely contribute to many effects of traditional persuasion variables related to source expertise/credibility, trustworthiness, and power. However, perceptions of efficacy need not and often do not co-occur with these other characteristics. For instance, consider efficacy in relation to perceptions of source credibility or expertise. In some cases, we might view elected public officials (e.g., Senators, Presidents; high efficacy) as having substantial ability to bring outcomes to fruition (e.g., policy changes, executive orders), but we may also believe that they possess little expertise on the topic (e.g., energy conservation, stem cell research). In contrast, some communicators may be viewed as having a great deal of expertise in a particular domain (e.g., nuclear physicists, social psychologists), but they may have little ability to directly influence public policy or other outcomes (low efficacy). Similar contrasts between efficacy and other constructs can also be drawn. Therefore, considering these differences, it is worthwhile to directly explore how and under what circumstances perceived efficacy may affect persuasion.

SOURCE EFFICACY AND POTENTIAL MECHANISMS OF PERSUASION
Consistent with prominent models of attitude change (e.g., the Elaboration Likelihood Model, ELM, Petty & Cacioppo, 1986), source efficacy may influence attitudes in different ways depending on the message recipient’s motivation and ability to actively process the central merits of an issue. Organizing effects of source efficacy according to the level of cognitive processing is important because attitudes that result from relatively higher levels of thinking tend to be more durable and directive of behavior (see Petty & Krosnick, 1995). In an initial investigation, Clark and Wegener (2009) examined effects of source efficacy when initial motivation to think was relatively moderate (not constrained to be low or high). In these studies, participants received a message that was designed to be moderate in terms of personal relevance (or issue involvement) and source efficacy was found to influence the extent to which arguments were carefully scrutinized. In
particular, high levels of source efficacy increased processing of messages that disagreed with message recipients’ pre-message attitudes (compared with low levels of source efficacy), but high levels of source efficacy decreased processing of messages that agreed with message recipients’ pre-message attitudes (compared with low levels of source efficacy).

However, effects on amount of processing are only one potential type of influence. At more extreme levels of motivation or ability to think, a growing body of research suggests that source factors hold the potential for distinctly different types of influence (see Brehm & Petty, 2009b; Petty & Wegener, 1998). The present research investigated source efficacy effects via three of these other potential mechanisms. Specifically, we examined the possibility that source efficacy may (1) serve as a cue/heuristic when motivation to process is low, (2) bias the direction of effortful message processing when motivation is high and message arguments are ambiguous, and (3) affect the confidence people have in their message-related thoughts when motivation is high and source efficacy information is encountered after the message. For each of the proposed roles for source efficacy, the persuasive effects should be driven by perceptions that efficacious sources are likely to present information that is more valid and compelling compared to advocates that lack efficacy. It is interesting to note that previous persuasion studies have also been based on similar assumptions (i.e., that expert sources or perhaps majority or powerful sources are likely to provide valid, compelling, or otherwise “correct” information). Yet, those studies have not assessed these presumed mediating beliefs about the sources or their messages.

Across the experiments, we employed methods and procedures that have been widely used in the persuasion domain. Participants received a persuasive message that varied in terms of the quality of arguments and also received efficacy information regarding the source. Post-message attitudes and message-related thoughts were measured in order to assess the relative influence of source characteristics versus the central merits of the persuasive appeal (see Petty & Cacioppo, 1986, for discussion of this method). In the sections to follow, we discuss each potential mechanism in more detail prior to the experiment that tests that mechanism.

**EXPERIMENT 1: SOURCE EFFICACY AS A PERIPHERAL CUE**

When motivation or ability to process information is lacking, many source factors (e.g., expertise, Chaiken & Maheswaran, 1994; Petty, Cacioppo, & Goldman, 1981; attractiveness, Chaiken, 1980) have been shown to serve as simple cues that directly influence attitudes. For example, Petty, Cacioppo, and Schumann (1983) varied the celebrity status of a spokesperson as well as the personal relevance of a consumer product (low vs. high) and strength of product features (unambiguously weak vs. unambiguously strong). When the personal relevance of the product was low (and participants were relatively unmotivated to process the message), participants reported more favorable attitudes toward the product when the endorser was described as a celebrity rather than a non-celebrity. Moreover, consistent with celebrity status serving as a cue in low-motivation conditions, the strength of product features in the advertisement had no influence on evaluations. In contrast, when the product was highly relevant (and participants were motivated to think), the quality of product features had a substantial influence, and the celebrity status of the endorser had no significant impact on attitudes.

These findings suggest that message recipients may rely on perceptions associated with the likeability or attractiveness of a source as a basis for their attitude toward an advocacy. In the case of source efficacy, expectations regarding the likely strength of an appeal (rather than perceived attractiveness) should hold a similar potential to be used as a peripheral cue. Compared to ineffectual sources, efficacious advocates should be viewed as more likely to make valid, compelling arguments. Thus, when insufficient motivation or ability keeps message recipients from closely scrutinizing the quality of the (relatively complex) available arguments, message recipients may rely on these (simpler) source perceptions as a shortcut for determining that the advocacy probably has merit. In contrast, when recipients are motivated and able to scrutinize messages, the quality of the unambiguous message content should have the most influence on post-message attitudes, and source efficacy should have little impact.

Thus, for Experiment 1, we predicted that source efficacy would have a stronger influence on post-message attitudes when motivation to think carefully about the message is relatively low rather than high. In addition, we expected this effect of efficacy to be mediated by beliefs that the source would provide valid arguments in support of the advocated position.

**Method**

**Participants and Design**

Two hundred fourteen Indiana University undergraduates participated in exchange for partial course credit in their introductory psychology classes. Participants were randomly assigned to a 2 (source efficacy: low, high) × 2 (personal relevance: low, high) × 2 (argument quality: weak, strong) between-participants factorial design.

**Procedure**

Upon arrival to the lab, participants were seated at a computer station. They were then told that their task would be to assess factors related to the readability of a written communication. Following this cover story, participants completed a 20-item survey in which one question pertained to attitudes toward nuclear power plants (1 = definitely opposed to 9 = definitely in favor) and the remaining items served as filler. Upon completion of the survey, participants received information that manipulated the efficacy of a message source (low vs. high) followed by information that varied the personal relevance of the forthcoming communication (low vs. high). Participants were then given a set of compelling (strong) or specious (weak) arguments advocating the development of additional nuclear power plants in the United States. Following
this message, participants reported their post-message attitudes, engaged in a thought-listing task, and responded to manipulation checks. After these measures, participants were thanked for their contributions and debriefed.

Independent Variables

Source Efficacy  Participants received one of two source descriptions designed to manipulate perceptions of efficacy. In the low (high) efficacy conditions, participants were told: “Over the past 10 years, Mr. Saunders has been very unsuccessful (successful) in getting his recommendations (on a variety of issues) approved by governing bodies.”

Personal Relevance  Immediately after the source description, participants learned the topic of the advocacy (i.e., nuclear power plants) and received information that varied the personal relevance of the message (adapted from Hagtvedt & Wegener, 1994). In low personal relevance conditions, participants were told that new nuclear power plants were being considered for the relatively distant US states of Arizona and New Mexico. However, in conditions of high personal relevance, participants were informed that the plants were being proposed for their own state (Indiana) and a neighboring state (Illinois).

Argument Quality  Participants received one of two versions of a message advocating the development of more nuclear power plants. The message consisted of either four weak arguments or four strong arguments (approximately 300 words; adapted from Clark, Wegener, & Fabrigar, 2008b). For example, one weak argument stated that nuclear power plants are more desirable because they are more aesthetically pleasing than conventional power plants. In the strong version, however, one argument stated that additional nuclear plants could help reduce the emissions of greenhouse gases by replacing a number of conventional power plants. An analysis revealed that participants held largely negative pre-message attitudes toward nuclear power plants ($M = 3.83$, $SD = 1.92$; lower than the scale midpoint of 5, $t(213) = -8.93, p < .001$). Thus, the nuclear power message was counter-attitudinal for a majority of participants.

Dependent Measures

Post-message Attitudes  After reading the message, participants reported their attitudes on six measures. The first five items used the stem “Nuclear power plants are:” (1 = bad, useless, harmful, negative, unnecessary, to 9 = good, useful, beneficial, positive, necessary). The sixth item was: “Building nuclear power plants in the United States is a good idea” (1 = strongly disagree to 9 = strongly agree). Responses to these six measures were highly reliable ($\alpha = .97$) and were averaged to form a post-message attitude index.

Cognitive Responses  Following completion of the attitude measures, participants completed a thought-listing task in which they listed a maximum of eight thoughts that came to mind while reading the message (see Wegener, Downing, Krosnick, & Petty, 1995, for specific thought-listing instructions). Upon listing eight thoughts or after 3 minutes elapsed, participants were prompted to rate each of their thoughts. Each listed thought was presented sequentially by the computer and was coupled with the following choices: Positive, negative, neutral, or unrelated to nuclear power plants. The overall favorability of each participant’s self-rated thoughts was indexed by subtracting the number of negative thoughts from the number of positive thoughts and dividing this difference by the total number of thoughts listed.

Expected Message Validity  After the thought-listing task, participants reported their pre-message expectations concerning the cogency of the arguments. These items were “After reading the description of William Saunders’ past experience but before reading the message...”; (1) “To what extent did you expect the message to have strong arguments?” and (2) “to what extent did you expect the message to make a compelling case in favor of nuclear power? (1 = not at all to 9 = very much so).” Responses on these measures were reliable ($\alpha = .92$) and scores were averaged to form an index of expected message validity.

Source Efficacy Manipulation Check  Perceptions of source efficacy were assessed via two scaled items. These items were “After reading the description of William Saunders’ past experience but before reading the message...” : (1) “How likely did you believe that he would be effective in helping bring about more nuclear power plants?” and (2) “how likely did you believe that he would successfully achieve his goal of building more nuclear plants? (1 = not at all likely to 9 = very likely).” These ratings were highly correlated ($\alpha = .91$) and were thus averaged to form an index of perceived source efficacy.

Perceptions of Source Credibility  In addition to measuring views of efficacy, two items targeted perceptions of source credibility. These questions were “After reading the description of William Saunders’ past experience but before reading the message...” : (1) “How likely did you believe he was an expert source?” and (2) “how likely did you believe he was a credible source? (1 = not at all to 9 = very much).” Participants’ responses on these measures were averaged to form an index of perceived source credibility ($\alpha = .92$).

Personal Relevance Manipulation Check  Participants answered two questions targeting personal relevance of the nuclear power issue. These scales were paired with the following statement: “The issue of building new nuclear power plants is:” (1 = not at all relevant to me, not at all important to me, to 9 = very relevant to me, very important to me). Responses were averaged to form an index of perceived personal relevance ($\alpha = .89$).

Results

Expected Message Validity

A 2(source efficacy: low, high) × 2(personal relevance: low, high) × 2(argument quality: weak, strong) Analysis of Variance (ANOVA) revealed a significant main effect of the efficacy manipulation. Participants who received the high efficacy source reported that they expected the message to contain more compelling arguments ($M = 5.69$, $SD = 2.12$) than participants who received the low efficacy source ($M = 4.51$, $SD = 1.91$), $F(1, 206) = 18.80, p < .001,$
Indices of perceived source efficacy and perceived credibility were submitted to separate three-way ANOVAs. On the index of source efficacy, a robust main effect of the efficacy manipulation emerged, $F(1, 206) = 58.89, p < .001, \eta^2_{\text{partial}} = .22$. Participants who received the high efficacy description viewed the source as more effective ($M = 5.50, SD = 2.06$) than participants who received the low efficacy information ($M = 3.34, SD = 2.02$). No additional effects were significant, $p$s > .34. On perceived source credibility, a similar main effect of the efficacy manipulation was found such that higher levels of credibility were perceived when the source was high ($M = 5.52, SD = 2.02$) rather than low in efficacy ($M = 4.05, SD = 1.91$), $F(1, 206) = 18.75, p < .001, \eta^2_{\text{partial}} = .08$ (no additional significant effects were found, $p$s > .15). Perceptions of efficacy and credibility were correlated, $r = .66, p < .001$. However, effects of source efficacy on attitudes were not due to effects of the efficacy manipulation on perceptions of credibility.

**Perceived Personal Relevance**

Results of a three-way ANOVA showed a significant main effect of the personal relevance manipulation such that the nuclear power topic was perceived as more relevant when proposed plants were in participants’ home state and a neighboring state ($M = 5.55, SD = 2.28$) rather than distant states ($M = 4.66, SD = 2.37$), $F(1, 206) = 8.02, p = .005, \eta^2_{\text{partial}} = .04$. In addition, a robust main effect of argument quality ($M_{\text{weak}} = 4.78 [SD = 2.35]$ vs. $M_{\text{strong}} = 5.44 [SD = 2.34]$), $F[1,206] = 4.47, p = .036, \eta^2_{\text{partial}} = .02$) and a marginal main effect of source efficacy ($M_{\text{low}} = 4.81 [SD = 2.40]$ vs. $M_{\text{high}} = 5.41 [SD = 2.30]$), $F[1,206] = 3.57, p = .060, \eta^2_{\text{partial}} = .02$) emerged. No other effects approached significance ($p$s > .21).

**Post-message Attitudes**

A three-way Analysis of Covariance (ANCOVA) was performed on the post-message attitude index with pre-message attitude ($M = 3.83, SD = 1.92$) and perceived source credibility ($M = 4.62, SD = 2.04$) serving as a covariates. Consistent with personal relevance influencing motivation to process (e.g., Petty & Cacioppo, 1979), the quality of the message arguments significantly influenced post-message attitudes when personal relevance was high (adjusted means, $M_{\text{weak}} = 4.37 [SE = .24]$ vs. $M_{\text{strong}} = 5.69 [SE = .24]$), $F[1,204] = 15.42, p < .001, \eta^2_{\text{partial}} = .07$), but not when it was low (adjusted means, $M_{\text{weak}} = 4.78 [SE = .23]$ vs. $M_{\text{strong}} = 4.99 [SE = .24], F < 1$), Personal Relevance $\times$ Argument Quality, $F(1,204) = 5.46, p = .020, \eta^2_{\text{partial}} = .03$ (see Figure 1).

However, the crucial test of our first hypothesis is whether the manipulation of source efficacy influenced attitudes more when personal relevance was low rather than high (the opposite pattern as for the argument quality manipulation). Consistent with this prediction, a robust Personal Relevance $\times$ Source Efficacy interaction emerged, $F(1, 204) = 3.92, p = .049, \eta^2_{\text{partial}} = .02$ (see Figure 1). The efficacy of the source tended to influence attitude favorability when personal relevance was low (adjusted means, $M_{\text{low}} = 4.57 [SE = .24]$ vs. $M_{\text{high}} = 5.20 [SE = .25]$), $F[1,204] = 2.58, p = .109, \eta^2_{\text{partial}} = .01$), but not when relevance was high (adjusted means, $M_{\text{low}} = 5.19 [SE = .25]$ vs. $M_{\text{high}} = 4.87 [SE = .23], F < 1$). Main effects of both covariates (pre-message attitude: $F[1,204] = 56.90, p < .001, \eta^2_{\text{partial}} = .22$; perceived source credibility: $F[1,204] = 16.54, p < .001, \eta^2_{\text{partial}} = .08$) and argument quality ($F[1,204] = 10.25, p = .002, \eta^2_{\text{partial}} = .05$) were also found.

**Thought Favorability and Thought Mediation**

A three-way ANCOVA was conducted in which pre-message attitude ($F[1,204] = 18.42, p < .001, \eta^2_{\text{partial}} = .08$) and perceived source credibility ($F[1,204] = 13.65, p < .001, \eta^2_{\text{partial}} = .06$) served as covariates. Similar to post-message attitudes, argument quality significantly influenced the favorability of
thoughts when personal relevance was high (adjusted means, \( M_{\text{weak}} = -0.38 \) [SE = .08] vs. \( M_{\text{strong}} = -0.13 \) [SE = .08], \( F[1,204] = 5.71, \ p = .018, \eta^2_{\text{partial}} = .03 \), but not when personal relevance was low (adjusted means, \( M_{\text{weak}} = -0.11 \) [SE = .07] vs. \( M_{\text{strong}} = -0.09 \) [SE = .08], \( F < 1 \). Personal Relevance × Argument Quality, \( F(1, 204) = 2.42, \ p = .122, \eta^2_{\text{partial}} = .01 \). Main effects of the personal relevance (adjusted means, \( M_{\text{weak}} = -0.10 \) [SE = .05] vs. \( M_{\text{high}} = -0.25 \) [SE = .05], \( F[1,204] = 4.24, p = .041, \eta^2_{\text{partial}} = .02 \) and argument quality manipulations (adjusted means, \( M_{\text{weak}} = -0.24 \) [SE = .05] vs. \( M_{\text{strong}} = -0.11 \) [SE = .05], \( F[1,204] = 3.36, \ p = .068, \eta^2_{\text{partial}} = .02 \) also emerged.

Attitudes that result from high levels of elaboration should be based on participants’ assessments of the central merits of the message. A centered regression (including all terms from the ANCOVA analyses and all interaction terms with expected message validity and perceived credibility each as a substitute for source efficacy) showed that the Personal Relevance × Source Efficacy term decreased (from the original value of \( b = -.94, t[204] = -1.99, \ p = .049, \ r^2 = .02 \) to non-significance, \( b = -.59, t(197) = -1.17, p = .245 \). In contrast, the Personal Relevance × Expected Message Validity interaction predicted post-message attitudes, \( b = -.30, t(197) = -1.99, \ p = .048, \ r^2 = .02 \), above and beyond the Personal Relevance × Source Efficacy term.

Bootstrapping analyses (similar to those previously described) showed that expected message validity mediated effects of the source efficacy manipulation on attitudes when personal relevance was low (estimated mean indirect effect = .29, BC CI 95: .0499–.7412) but not when personal relevance was high (estimated mean indirect effect = .04, BC CI 95: -.0243 to .2988). Also, when perceived source credibility was treated as the mediator instead of expected message validity, source credibility failed to serve as a mediator (in low relevance conditions, estimated mean indirect effect = .02, BC CI 95: -.0257 to .1840). Thus, cue effects of the source efficacy manipulation appear to be at least partly due to beliefs that the source would provide compelling arguments and not because of perceptions that the efficacious source was also highly expert or credible per se.

**Discussion**

Experiment 1 provided evidence that perceptions of source efficacy can be used as a peripheral cue to persuasion when people are relatively unmotivated to think carefully about the central tenets of an advocacy. That is, when the personal relevance of the nuclear power message was low, post-message attitudes were more favorable when source efficacy was high rather than low—regardless of the quality of the message arguments. Also, efficacy had no impact on the valence of participants’ thoughts in response to the message, supporting characterization of the effects as relatively non-effortful or cue-based. In conditions of high personal relevance, however, the efficacy of the source did not influence post-message attitudes. Rather, the favorability of attitudes and message-related thoughts was determined by the quality of the message arguments. In addition, analyses showed that the effects of source efficacy were not due to perceptions of source credibility. However, participants expected the high efficacy source to present more valid, compelling arguments than the low efficacy advocate and these perceptions accounted for the cue effects on persuasion.

**EXPERIMENT 2: SOURCE EFFICACY BIASING EFFORTFUL MESSAGE ELABORATION**

Consistent with the multiple roles and biased processing postulates of the ELM, some persuasion variables have been shown to hold a biasing potential at high levels of message elaboration, especially when information about the target is relatively ambiguous (e.g., Chaiken & Maheswaran, 1994;
Petty, Schumann, Richman, & Strathman, 1993; see also Wegener, Clark, & Petty, 2006). For example, Chaiken and Maheswaran (1994) used message arguments that were ambiguous (not clearly strong or weak) or unambiguous (clearly strong or weak). Under high-motivation conditions, source credibility had no effect on attitudes or on thoughts about the attitude object (a consumer product) when the arguments were unambiguous (as in Petty et al., 1981, 1983). However, when arguments were ambiguous, a credible source was more persuasive than a non-credible source, and effects of source credibility were mediated by thought favorability (i.e., a credible source led to more favorable thoughts than a non-credible source, and thought favorability influenced post-message attitudes; for similar effects involving mood of the message recipient, see Petty et al., 1993).

These past findings suggest that source efficacy could also bias processing of ambiguous message arguments. As noted earlier, sources that possess substantial efficacy should be expected to present cogent arguments, whereas ineffectual sources may be viewed as likely to offer more specious information. Thus, when the strength of an appeal is not clearly strong or weak, activation of these beliefs could tend to push effortful message-related thinking in a direction that is expectancy-consistent (e.g., to give the “benefit of the doubt” to an efficacious source, but to look harshly on a source believed to be ineffective).

Experiment 2 used relatively ambiguous (mixed) message arguments and conditions of high motivation to test the hypothesis that source efficacy will bias the direction of message-related thinking and subsequent attitudes. Furthermore, these biases in processing should be due to expectations that the efficacious source is more likely to present cogent information compared to an ineffectual source.

Method

Participants and Design

Seventy-seven undergraduates at the University of Alabama participated and received partial course credit. Participants were randomly assigned to one of two conditions (low source efficacy or high source efficacy).

Procedure

Procedures were similar to Experiment 1 with the following exceptions. The attitudes of experimental interest concerned comprehensive exams for college seniors and participants received a message advocating these exams (pre-message attitude, $M = 4.84, SD = 2.45$; difference from scale midpoint [5], $p = .578$). Prior to receiving the message, the efficacy of the source was varied using the same manipulation as Experiment 1. Moreover, all participants were told that the exams were being considered for their institution the following academic year—in order to create high personal relevance (see, Petty & Cacioppo, 1979; Petty et al., 1981).

The message contained relatively ambiguous arguments that were developed by modifying a previously created message in favor of the exams (for the original strong and weak arguments, see Petty & Cacioppo, 1986). This original message stated that the grade point average at another institution has increased by “31%” (since implementing the exams), graduates obtain starting salaries of “$3000–4000” higher, and “have a 55% greater chance of landing a top job” compared to graduates from schools without the exams. In contrast, the more ambiguous version used in the current study stated that GPA increased by “1%” but that this increase was not “statistically meaningful,” that starting salaries were “$100–$200 higher,” and that students “might have a slightly greater chance of landing a job.” Following procedures specified by Petty and Cacioppo (1986), these ambiguous arguments were pretested to ensure that they elicited more favorable cognitive responses compared to previously created weak arguments and elicited less favorable thoughts than previous strong arguments.

After reading the message, participants completed a series of dependent measures that were the same as those used in Experiment 1, except that any reference to “nuclear power plants” was replaced with “senior comprehensive exams.” Upon completion of these measures, participants were debriefed and thanked.

Results

Expected Message Validity

Responses on the two items targeting message validity expectations ($\alpha = .91$) were averaged to form a single index. As in Experiment 1, a one-way ANOVA revealed that participants in the high source efficacy condition expected a message that contained more compelling arguments ($M = 6.04, SD = 1.65$) than participants who received the low efficacy source ($M = 4.83, SD = 2.03$), $F(1, 75) = 8.16, p = .006, \eta^2_{\text{partial}} = .10$.

Source Efficacy Manipulation Check and Perceived Source Credibility

Separate indices of perceived source efficacy ($\alpha = .89$) and credibility ($\alpha = .91$) were created by averaging scores from the two scaled measures that corresponded to each construct. Each index was submitted to independent one-way ANOVAs wherein manipulated source efficacy was the sole factor. As expected, a significant effect of the efficacy manipulation was found on the index of perceived efficacy ($M_{\text{low}} = 4.71$ [$SD = 1.92$] vs. $M_{\text{high}} = 6.11$ [$SD = 1.57$]), $F(1, 75) = 12.20, p = .001, \eta^2_{\text{partial}} = .14$. On the index of perceived source credibility, a similar effect was observed ($M_{\text{low}} = 4.68$ [$SD = 2.02$] vs. $M_{\text{high}} = 5.70$ [$SD = 1.65$]), $F(1, 75) = 5.84, p = .018, \eta^2_{\text{partial}} = .07$. As in Experiment 1, perceptions of efficacy and credibility were correlated, $r = .54, p < .001$, but effects of source efficacy on attitudes went above and beyond effects of the efficacy manipulation on perceived credibility.

Perceived Personal Relevance

An index of perceived personal relevance of the comprehensive exam issue was calculated by averaging responses to the
two-scaled items (α = .90). The results of a one-way ANOVA showed no differences as a function of the source efficacy manipulation (M<sub>low</sub> = 7.19, SD = 1.86) vs. M<sub>high</sub> = 7.07 (SD = 2.14), F < 1, p > .78. Consistent with creating high levels of personal relevance, perceptions of relevance (M = 7.13, SD = 1.99) were significantly higher than the midpoint (5) of the nine-point scale, t(76) = 9.37, p < .001.

Post-message Attitudes

The six measures of post-message attitudes (α = .96) were averaged to form a single index. A one-way ANCOVA was conducted wherein pre-message attitude (M = 4.84, SD = 2.45) and perceived source credibility (M = 5.18, SD = 1.90) served as covariates. In support of predictions regarding biased processing, source efficacy significantly influenced attitudes. Participants were more favorable toward senior comprehensive exams when source efficacy was high (M<sub>adjusted</sub> = 6.06, SE = .28) rather than low (M<sub>adjusted</sub> = 5.24, SE = .27), F(1, 73) = 4.23, p = .043, r<sup>2</sup> = .06. The covariate of pre-message attitude also related significantly to post-message attitudes, F(1, 73) = 32.10, p < .001, r<sup>2</sup> = .31.

Thought Favorability and Thought Mediation

Favorability of thoughts was indexed as in Experiment 1. A marginally significant main effect of source efficacy emerged from an ANCOVA, F(1, 73) = 3.40, p = .069, r<sup>2</sup> = .05. Consistent with post-message attitudes, thoughts tended to be more favorable when the efficacy of the message source was high (M<sub>adjusted</sub> = 1.7, SE = 1.2) rather than low (M<sub>adjusted</sub> = 1.4, SE = 1.1). More importantly, however, the results of a bootstrapping analysis (which controlled for pre-message attitude and perceived source credibility) offered additional evidence in support of our biased processing prediction. The favorability of participants’ thoughts significantly mediated the effect of source efficacy on attitudes, estimated mean indirect effect = .42, BC CI 95%: .0058–1.0043. Specifically, in regression analyses, the impact of source efficacy on post-message attitudes fell to non-significance (b = .40, t(72) = 1.19, p = .240) when thought favorability (b = 1.39, t(72) = 5.92, p < .001, r<sup>2</sup> = .32) was included in the model. In support of the hypothesis, these findings suggest that knowledge of the source’s efficacy served to color participants’ message-related thoughts and these biased cognitions in turn produced differences in post-message attitudes.

Source Efficacy and the Role of Message Validity Expectations

Similar to the cue effects of source efficacy, differences in anticipated message validity are predicted to account for the biased processing effect of efficacy. This hypothesis was supported by the results of regression-based mediational analyses that controlled for pre-message attitudes and perceptions of source credibility. Specifically, the impact of the source efficacy manipulation on post-message attitudes decreased (from the original value of b = .82, t(73) = 2.06, p = .043, r<sup>2</sup> = .05) and fell to non-significance, b = .58, r(72) = 1.49, p = .141, when message validity expectations were included in the model as a predictor. Furthermore, these message validity perceptions were found to be a strong predictor of attitudes, b = .32, t(72) = 2.76, p = .007, r<sup>2</sup> = .10 (in bootstrapping analyses, estimated mean indirect effect = .24, BC CI 95%: .0009–.7700).

A regression that contained identical predictors of the favorability of participants’ thoughts revealed a similar mediational pattern. The direct effect of source efficacy was non-significant (b = .23, t(72) = 1.39, p = .168) when message validity perceptions were included in the model, whereas the impact of validity perceptions was robust (b = .10, t(72) = 2.02, p = .047, r<sup>2</sup> = .05; in bootstrapping analyses, estimated mean indirect effect = .07, BC CI 93%: .0015–.2186). In addition, when perceptions of source credibility were treated as the mediator, the indirect effects were non-significant (on attitudes, estimated mean indirect effect = −.08, BC CI 95%: −.4248 to .0176; on thought favorability, estimated mean indirect effect = −.01, BC CI 95%: −.0933 to .0276). Thus, biased processing effects of source efficacy are also directly accounted for by beliefs that the source would provide compelling arguments, not because of perceptions that the efficacious source was also expert or credible.

Discussion

Experiment 2 provided evidence that source efficacy can influence persuasion when motivation and ability to process are high and message arguments are relatively ambiguous. In particular, the high efficacy source elicited more favorable thoughts and attitudes toward comprehensive exams compared to the low efficacy advocate. Additional analyses demonstrated that these effects were not due to perceptions of source credibility. Rather, differences in source efficacy were linked with different expectations regarding the validity of the message and these perceptions accounted for the biased processing effect of efficacy on persuasion.

EXPERIMENT 3: SOURCE EFFICACY VALIDATING THOUGHTS

Recent research has identified another distinct way that variables can influence high-thought persuasion—by influencing the amount of confidence message recipients have in their thoughts. That is, thoughts held with greater confidence should have more impact on attitudes (Petty, Briñol, & Tormala, 2002). In support of this hypothesis, research has identified a variety of factors that can determine thought confidence in response to persuasive messages including the credibility of the message source (e.g., Briñol, Petty, & Tormala, 2004), the mood of message recipients (Briñol, Petty, & Barden, 2007), and the extent to which message recipients feel powerful (Briñol, Petty, Valle, Rucker, & Becerra, 2007). For instance, Briñol and colleagues (2004) provided source credibility information after reading a message and found that people had greater confidence in their thoughts when they learned that the source was credible rather than non-credible (see also Tormala, Briñol, & Petty, 2006, 2007). Moreover, differences in thought
confidence determined attitude favorability such that more confidence in thoughts led to greater influence of those thoughts on resulting attitudes. Validation effects have been shown to occur primarily when the confidence-inducing factor is introduced after a message and when substantive message processing has occurred (see Briñol et al. 2004; Briñol & Petty, 2009a). When encountered before an advocacy, the same variables act as peripheral cues (if elaboration likelihood is low, see Experiment 1) or bias message processing (if elaboration likelihood is high and message arguments are ambiguous, see Experiment 2) while having little effect on confidence (see Briñol, Petty, Valle, et al., 2007; Tormala et al., 2007).

Across these and other investigations, self-validation research has demonstrated that message recipients must first produce thoughts about a message before they experience confidence or doubt in those cognitions. In addition, persuasion variables that have been identified as influencing thought confidence are those that plausibly trigger perceptions of accuracy, validity, and trust (for a review, see Briñol & Petty, 2009a). That is, if a source is one that should present the best available arguments, then one can be confident that presented positive features of the advocated position are, in fact, positive and that weak, specious support for the advocacy means that there are no truly compelling arguments available. On the other hand, if the source is less effective, then one may doubt whether the advocated position would have the desirable consequences attributed to it (when strong arguments are given) or whether better support might exist (when weak arguments are given). If source efficacy is linked to perceptions that information is likely to be accurate, then efficacious sources should elicit greater confidence in message-related thoughts compared to advocates that lack efficacy. Furthermore, having more rather than less metacognitive confidence should result in attitudes that are based more on one’s thoughts about a message.

Thus, in Experiment 3, the efficacy of a source is learned after message recipients have processed the tenets of an advocacy. We predicted that participants would be more confident in their previous message-related thoughts once they later learned that a source is efficacious rather than inefficacious. Furthermore, we expected this elevated confidence to be associated with stronger influences of message-related thoughts on attitudes toward the issue.

Method

Participants and Design

One hundred nineteen University of Alabama undergraduates participated and received partial course credit. Participants were randomly assigned to a 2 (argument quality: Weak, strong) × 2 (source efficacy: Low, high) between-participants factorial.

Procedure

The procedure and materials were similar to those used by Briñol et al. (2004). Upon arrival to the lab, participants were told they would receive information concerning the household use of phosphate-based detergents and that legislators were reviewing proposals designed to encourage the use of such products. To motivate careful thinking, participants were asked to pay close attention to the upcoming message because they were part of a small group of participants taking part in this important policy research (see Petty, Harkins, & Williams, 1980; Tetlock, 1983). Participants then received a message in favor of using phosphate-based detergents. After the message, participants completed a thought-listing and were then given efficacy information about the message source. Subsequently, participants reported their attitudes, responded to scales of thought confidence, rated the valence of each listed thought, and completed manipulation checks.

Independent Variables

Argument Quality Participants received a message consisting of either weak or strong arguments advocating phosphate-based detergents. These weak and strong versions were taken directly from materials used in past research (see Tormala et al., 2006). Strong arguments focused on the lower cost of phosphate detergents over non-phosphate detergents and claimed that the former are more environmentally friendly. Weak arguments highlighted that phosphate detergents come in more attractive packaging and are less scented compared to non-phosphate detergents.

Source Efficacy Consistent with past self-validation research, the efficacy of the source was manipulated after receipt of the message and assessment of cognitive responses (see Briñol & Petty, 2009a). The efficacy manipulation (low vs. high) was identical to that used in the current Experiments 1 and 2.

Dependent Measures

Thought-listing Immediately after reading the message, participants engaged in the same thought-listing task used in Experiments 1 and 2.

Post-message Attitudes After receiving the source efficacy information, participants reported their attitudes toward phosphate detergents on six semantic differential scales. Each scale ranged from 1 to 9 and contained one of the following pairs of anchors: Negative–positive, bad–good, unfavorable–favorable, against–in favor, harmful–beneficial, and foolish–wise. Responses were averaged to form an index of post-message attitude (α = .94).

Thought Confidence Following the attitude measures, participants were asked to think back to the thought listing completed earlier and to report the confidence they had in the validity of their listed thoughts. These nine-point items were: “Overall, how much confidence do you have in the thoughts you listed?” (none at all to very much), “Overall, how valid would you say your thoughts are?” (not at all valid to extremely valid), “How certain are you that the thoughts you had while reading the message were ‘correct’?” (not at all certain to very certain), and “How certain are you that of all the possible thoughts that one might have about the message and phosphate detergents, your thoughts generally reflected the ‘right’ way to think and feel about what you saw?” (not at all certain to very certain). An index of thought confidence was formed by averaging responses to these measures (α = .88).
Thought-rating  Next, participants completed a thought-rating task that was identical to that used in previous experiments. Furthermore, overall favorability of thoughts was calculated the same as in Experiments 1 and 2.

Source Efficacy Manipulation Check  Perceptions of source efficacy were assessed via two scales that were identical to those used in Experiments 1 and 2 (except that the attitude object was now “phosphate detergents”). Responses were averaged into a single index (α = .95).

Perceptions of Source Credibility  Perceived source credibility was measured on the same two scales as in Experiments 1 and 2 (α = .91).

Results

Source Efficacy Manipulation Check and Perceived Source Credibility

The indices of perceived source efficacy and source credibility were submitted to independent 2 (Argument Quality: weak vs. strong) × 2 (Source Efficacy: low vs. high) ANOVAs. On perceptions of efficacy, main effects of the efficacy manipulation (Mlow = 4.54 [SD = 2.22] vs. Mhigh = 6.60 [SD = 1.91]), F(1, 115) = 31.48, p < .001, η² partial = .22, and argument quality were found (Mweak = 4.99 [SD = 2.14] vs. Mstrong = 6.15 [SD = 2.37]), F(1, 115) = 9.81, p = .002, η² partial = .08. In addition, an unexpected tendency emerged such that argument quality had a greater influence on perceptions when the source was high (Mweak = 5.68 [SD = 1.91] vs. Mstrong = 7.52 [SD = 1.41]) as opposed to low in efficacy (Mweak = 4.30 [SD = 2.17] vs. Mstrong = 4.77 [SD = 2.27]), Argument Quality × Source Efficacy, F(1, 115) = 3.46, p = .065, η² partial = .03.

ANOVA results on perceptions of source credibility showed a similar pattern. The source efficacy manipulation created differences in perceived credibility, (Mlow = 4.27 [SD = 1.87] vs. Mhigh = 5.39 [SD = 2.23]), F(1, 115) = 9.09, p = .003, η² partial = .07. Also, the manipulation of argument quality produced differences in perceived credibility (Mweak = 4.43 [SD = 2.21] vs. Mstrong = 5.23 [SD = 1.96]), F(1, 115) = 4.68, p = .033, η² partial = .04. However, the Argument Quality × Source Efficacy interaction did not approach significance, F < 1, p = .362. As in Experiments 1 and 2, perceptions of efficacy and credibility were correlated, r = .62, p < .001.

Thought Favorability

A two-way ANCOVA was performed in which the manipulations of source efficacy and argument quality were between-participant factors and perceived source credibility served as a covariate (M = 4.79, SD = 2.10). Similar to past self-validation research, the analysis revealed a main effect of argument quality on thought favorability (adjusted means, Mweak = .014 [SE = .08] vs. Mstrong = .60 [SE = .08]), F(1, 114) = 27.79, p < .001, η² partial = .20. No significant main effect of source efficacy and no Argument Quality × Source Efficacy interaction were found (Fs < 1, ps > .49). This is consistent with participants engaging in substantive processing of the message and reporting the content of thoughts they had prior to learning the efficacy of the source. The perceived credibility of the source was correlated with thought favorability (F[1,114] = 6.20, p = .014, η² partial = .05).

Thought Confidence

Consistent with hypotheses, a significant main effect of efficacy emerged from a two-way ANCOVA (controlling for perceived credibility, M = 4.79, SD = 2.10), F(1, 114) = 4.98, p = .028, η² partial = .04. Participants reported greater confidence in thoughts when the source was high (Madjusted = 6.43, SE = .23) rather than low (Madjusted = 5.71, SE = .22) in efficacy. The argument quality manipulation tended to influence thought confidence such that ratings were higher when message arguments were strong (M = 6.31, SE = .22) than weak (M = 5.83, SE = .22), F(1, 114) = 2.22, p = .139. No additional effects approached significance (ps > .25).

Post-message Attitudes

As predicted, a two-way ANCOVA (controlling for perceived credibility) yielded a significant Argument Quality × Source Efficacy interaction on the index of post-message attitude, F(1, 114) = 3.95, p = .049, η² partial = .03 (see Figure 2). When source efficacy was high (and thought confidence was relatively high), the quality of the message arguments had a greater influence on post-message attitudes (adjusted means, Mweak = 5.49 [SE = .23] vs. Mstrong = 7.60 [SE = .26], F[1,114] = 41.28, p < .001, η² partial = .27) compared to when source efficacy was low (and thought confidence was relatively low; Mweak = 5.74 [SE = .25] vs. Mstrong = 6.92 [SE = .22], F[1,114] = 11.15, p = .001, η² partial = .09). A robust main effect of argument quality (F[1,114] = 46.57, p < .001, η² partial = .29) and an effect of the perceived credibility covariate (F[1,114] = 7.81, p = .006, η² partial = .06) also emerged.

Mediation Analyses

Because participants were instructed to think carefully about the message, we expected that attitudes about phosphate detergents would be based, at least in part, on assessments of Figure 2. Adjusted mean post-message attitude as a function of argument quality and source efficacy in Experiment 3.
the central merits of the appeal. Mediation analyses which controlled for perceptions of source credibility showed that the favorability of participants’ thoughts significantly mediated the effect of argument quality on attitudes. A simultaneous regression showed that the impact of argument quality decreased (from the original value of $b = 1.58$, $t(116) = 6.57$, $p < .001$, $r^2 = .27$), but remained a robust predictor of post-message attitudes ($b = 1.02$, $t(115) = 4.21$, $p < .001$, $r^2 = .14$) when thought favorability ($b = .97$, $t(115) = 5.25$, $p < .001$, $r^2 = .19$) was included in the model. Furthermore, a bootstrap analysis revealed that this mediational pattern was significant, estimated mean indirect effect $= .56$, BC CI 95%: .2888–.9612.

However, our primary prediction regarding validation of thoughts suggests that this link between thoughts and attitudes should also be determined by the efficacy of the message source. When the source was high in efficacy, participants’ attitudes should have been more reliant on cognitive responses because of greater thought confidence compared to conditions in which the source was low in efficacy. We tested this assertion using mediated moderation regression procedures similar to those used in Experiment 1. In an initial model, post-message attitudes were regressed on centered terms for thought favorability, source efficacy and their interaction (controlling for the main effect of perceived source credibility and a Thought Favorability $\times$ Source Credibility interaction). A robust Thought Favorability $\times$ Source Efficacy interaction showed that favorability of thoughts was more predictive of attitudes when source efficacy was high rather than low, $b = .81$, $t(114) = 2.41$, $p = .017$, $r^2 = .05$. However, if confidence is responsible for source efficacy effects, then a Thought Favorability $\times$ Thought Confidence term should reduce the impact of this distal Thought Favorability $\times$ Source Efficacy interaction on attitudes. A second analysis examined the impact of the proposed mediator on post-message attitudes. This test included centered terms for thought favorability, thought confidence, and their interaction and showed that thought favorability was a stronger predictor of attitudes at higher levels of thought confidence, Thought Favorability $\times$ Thought Confidence interaction, $b = .26$, $t(114) = 2.79$, $p = .006$, $r^2 = .06$.

In order to pit the mediator against the distal predictor (and control for perceptions of source credibility), we ran a model that included main effects of thought favorability, source efficacy, argument quality, perceived credibility, and thought confidence. Importantly, interaction terms were also included that paralleled the Thought Favorability $\times$ Source Efficacy predictor (involving argument quality as a substitute for thought favorability and perceived credibility for source efficacy). This regression revealed that the Thought Favorability $\times$ Source Efficacy interaction on attitudes decreased to non-significance, $b = .11$, $t(106) = .29$, $p = .773$. However, the Thought Favorability $\times$ Thought Confidence interaction remained a strong and significant predictor of attitudes, $b = .27$, $t(106) = 2.93$, $p = .004$, $r^2 = .07$. A bootstrapping analysis using the Thought Favorability $\times$ Thought Confidence term as a mediator reproduced the regression results, but also showed that this mediational pattern held significance, estimated mean indirect effect $= .20$, BC CI 95%: .0013–.7169. This pattern of results supports the predicted role of source efficacy on self-validation of thoughts. A stronger relation between participants’ thoughts and attitudes was found when the source was high as opposed to low in efficacy and this effect was accounted for by differences in thought confidence that were experimentally induced by the manipulation of source efficacy.

**Discussion**

Experiment 3 supported the prediction that source efficacy can validate people’s thoughts in response to a persuasive message. When learning that the source of a previously scrutinized message was high in efficacy, participants felt more confident in their message-related thoughts, and the cogency of the message arguments had a greater impact on attitudes compared to conditions of low source efficacy. In addition, mediation analyses suggested that attitudes were based more on message-related thoughts when source efficacy was high rather than low and that this effect was driven by differences in thought confidence.

As previously discussed, these observed effects on confidence should occur primarily under certain conditions. Past research has shown that when little thought is dedicated to a message, encountering a potential confidence-inducing variable after a message has little effect on confidence (e.g., Britol et al., 2004; Petty et al., 2002). Also, even at high levels of motivation and ability to think, the sequence of activation is crucial. For example, Tormala et al. (2007) found that when the credibility of a message source was manipulated prior to message receipt, source credibility biased the valence of participants’ thinking but it did not influence thought confidence. In contrast, when research participants learned about source credibility after the message, credibility influenced confidence in the thoughts people had generated in response to the message. Consistent with these and other investigations of self-validation, Experiment 3 participants were induced to think carefully about the advocacy, and efficacy information about the source was presented only after the message.

**GENERAL DISCUSSION**

Compared to many other characteristics of persuasive message sources, differences in perceived efficacy have received little direct research attention. This is surprising when one considers the vast number of situations where persuasive communications are received from sources that may vary in terms of their potential to facilitate proposed outcomes (e.g., politicians, co-workers, activist groups). In some of these situations, message recipients may be relatively unmotivated to do so. Thus, the aim of the current research was to examine some of the ways that perceptions of source efficacy can influence persuasion at different levels of motivation to process a persuasive message. Experiment 1 demonstrated that knowledge of a source’s efficacy could serve as a peripheral cue or heuristic to persuasion when motivation to think is relatively low. In contrast, Experiment 2 showed that efficacy could bias the valence of motivated participants’ message-related cognitions when the tenets of a message were relatively ambiguous and source efficacy information preceded the...
message. Lastly, the findings of Experiment 3 suggested that source efficacy can serve yet another distinct role. When source efficacy information is learned after a message has been processed (and, therefore, message recipients have previously generated thoughts about the persuasive appeal), the level of efficacy can determine the amount of confidence people have in their thoughts. The resulting level of confidence then determines the extent to which those thoughts impact the attitudes that people formulate about the advocated object or position. Each of these roles occurs at lower (cue effects) or higher (biasing processing, validating thoughts) levels of motivation than were used in previous research, where source efficacy influenced the extent to which people thought carefully about the content of a persuasive appeal (Clark & Wegener, 2009).

Implications and Future Directions

The current research has a number of implications and should open doors to many possibilities for future research. One direction for future inquiry could be to explore other distinct ways that source efficacy can influence persuasion. For example, some variables can serve as a central merit of the advocacy when amount of thinking is high and the variable is construed as a central dimension of the object or issue (see Petty & Cacioppo 1986). For instance, differences in source attractiveness have been shown to operate as arguments in studies where a message focused on a beauty product (Petty & Cacioppo, 1983) or the public image of a restaurant (Shavitt, Swan, Lowrey, & Wänke, 1994). Perceptions of efficacy may also hold this potential. However, the current findings suggest that efficacy may need to serve as a more central dimension of an issue to find such effects. Recall that, in contrast to the attractiveness findings of Petty and Cacioppo (1983) and Shavitt et al. (1994), no effects of efficacy were found on attitudes or thoughts in the current Experiment 1 when processing was high and the cogency of arguments was clearly strong or weak. It seems plausible, however, that if the efficacy of a source is more centrally related to an advocacy (e.g., a political candidate discussing strategies he/she would use to implement changes if elected) that efficacy could influence persuasion across levels of argument strength (and thus, serve as an additional central merit).

As previously described, Clark and Wegener (2009) found that when motivation to think was relatively moderate, source efficacy influenced the extent of message processing differently, depending on whether the position of a communication was relatively pro- versus counter-attitudinal. Although the position of a message has been shown to produce similar processing effects with several other persuasion variables (e.g., see Baker & Petty, 1994; Clark, Wegener, & Fabrigar 2008a; Wegener, Petty, & Smith, 1995), there is little research that supports a moderational role for message position at more extreme levels of processing motivation and ability (as reflected in the current research). We did explore this possibility in supplementary analyses of the current experiments that measured the valence of pre-message attitudes (i.e., Experiments 1 and 2). Regression analyses that treated pre-message attitudes (and all interaction terms) as centered continuous predictors showed no evidence of moderation by message position ($ps > .2$). These null findings may have been driven by factors related to the samples (e.g., few Experiment 1 participants had favorable pre-message attitudes toward nuclear power, small sample size in Experiment 2). Alternatively, the absence of moderation may have been due to the different mechanisms that could operate at extreme versus moderate levels of processing motivation. Clark and Wegener (2009) found that concern about the outcomes of a proposal accounted for the interactive effects of message position and source efficacy on processing. It is plausible that concern-based motives play a different, or less influential, role when motivation or ability to process is constrained. These possibilities could be examined in future research.

Our examination of source efficacy may also have implications for many of the traditional source variables in persuasion, including power (e.g., Festinger & Thibaut, 1951; Raven & French, 1958), majority/minority status (e.g., Crano & Chen, 1998; Moscovici, 1980; see Wood, Lundgren, Ouellette, Busceme, & Blackstone, 1994), and source credibility (e.g., Chaiken & Maheswaran, 1994; Petty et al., 1981). Each of these factors may influence perceptions of source efficacy, and these perceptions may be the (previously hidden) ingredient that drives effects of those variables. For example, perceptions of efficacy can drive processing of persuasive messages when motivation is relatively moderate (with high source efficacy increasing processing of counter-attitudinal messages, but low source efficacy increasing processing of pro-attitudinal messages, e.g., Clark & Wegener, 2009). Similar effects have been shown for majority/minority sources (e.g., Baker & Petty, 1994; Martin & Hewstone, 2003), although perceptions of efficacy have not been directly addressed. It could also be that perceptions of source efficacy might be responsible for at least some cue, biased processing, or validation effects of variables such as source power, majority status, or expertise.

Consistent with the current research, perceptions of efficacy might be associated with beliefs that the source is likely to provide compelling arguments. If so, these beliefs could be key parts of cue, biased processing, or thought validation effects. When considering distal variables like power, majority/minority status, and expertise, however, it is clear that there may be differences across these variables in the extent to which they are related to beliefs that the source will provide valid arguments. Although perceptions of credibility may be consistently associated with such beliefs (as in the current research), perceptions of source power or majority status may be more loosely or even not at all connected to such perceptions, at least in some settings. This would make it particularly interesting to consider other potential reasons for people to support what an efficacious (or powerful, majority, or expert) source advocates. Efficacy (and power and majority status) also brings with it the possibility that the advocacy is simply more likely to be established. Thus, some form of wishful thinking (McGuire & McGuire, 1991) could add to beliefs about argument validity to drive cue effects (when motivation or ability to process is minimal), biased processing effects (when motivation and ability are high, but message arguments are ambiguous), or thought validation effects (when motivation and ability are high, but message recipients learn about the source characteristics after, rather than before, the message).
We look forward to these and other future research directions. We hope that this future work will further investigate the interesting relations among source characteristics and how those characteristics combine to influence the effectiveness of those sources in various persuasion settings.

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